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SEQUOIA NATIONAL PARK, ANNUAL FOREST INSECT
REPORT, NOVEMBER 15, 1938

Frank Bean,
November 18, 1938

BUREAU OF

Entomology and Plant Quarantine

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Forest Insect Laboratory
BERKELEY, CALIF.

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SEQUOIA NATIONAL PARK
Annual Forest Insect Report
November 15, 1938

I. This report is based on a survey of Sequoia National Park as a whole. S. T. Carlson, Agent of the Bureau of Entomology and Plant Quarantine at Berkeley, was in the park for a few days during the summer and made observations on two sample plots. Copy of Mr. Carlson's report to J. H. Miller, Senior Entomologist, is attached to supplement this report.

II. Surveys on which this report are based were made during the latter part of the summer and autumn. From September 23 to October 3, the Acting Park Forester made a tour of most of the park to observe forest conditions. These observations were supplemented by those of out-of-rangers whose districts were not entirely covered by the undersigned.

III. General observations and topographic surveys were methods used for noting conditions, with the exception of the two sample plots from which Agent Carlson obtained his data.

IV. Taking the park as a whole, the forest insect situation is good. In no area was there a concentration of attack significant enough to warrant control measures. Here and there was a group of infested trees but exceptions to the general situation were not frequent enough to be of consequence at this time. These areas, which have been noted on Form No. 10-423, will be carefully watched to note if the situation becomes worse.

V. The Middle fork of the Kaweah River and Cliff Creek show indications of building up epidemics as in these areas the grouping of infested trees was noted. The remoteness of the region and the large expense of country involved would entail considerable expense for control. Hence, the situation must be quite critical before control measures would be justified.

Outstanding among special situations is the needle miner epidemic in the Kern-Kaweah Basin where Picket Creek enters the Kern-Kaweah River, elevation 9,300 feet. Here in an area of approximately a half square mile, there is practically a one hundred percent infestation in pure lodgepole pine. One thousand trees are estimated to be affected. Judging from the appearance of the trees, the situation must be one of several years' standing - perhaps ten years or longer. However, it has not been previously reported and this year was the first time the Acting Park Forester had visited the region during the ten years he has been in this park.

Although the attack is severe, there are not many dead trees, but practically all the trees are badly hit. Probably the weakening of the trees will continue until there will eventually result a wide spread mortality.

Around the edges of the area of concentration the attack dwindles quite rapidly so that above and below the basin involved no needle miner work was apparent. This was despite an unbroken stretch of lodgepole pine extending up the Kern-Kaweah River. Downward from the infested area the lodgepole pine is broken in its continuity and other species are sparse. As the distance from Junction Meadow on the Kern River where lodgepole pine is dense is about two and a half miles to the infected area, there seems remote possibility that the needle miner attack will spread to the Kern. At least, not for many years, judging from the apparent history of the infestation.

It is interesting that no bark beetle attacks were noticed along the entire length of the Kern-Kaweah River.

Senior Entomologist J. M. Miller stated that the Kern-Kaweah infestation is a new locality record and is perhaps part of an infestation on the Chagoopa Plateau, which has persisted for several years.

From specimens sent to the Berkeley office of the Bureau of Entomology, the needle miner was determined to be *Reservaria milleri*.

Respectfully submitted,



Frank Bean,
Acting Park Forester.

Frank

Needle Miner Infestation in Kern-Kaweah River Basin



MEMORANDUM FOR MR. J. M. MILLER, SENIOR ENTOMOLOGIST.

Re: Forest Insect Surveys, Sequoia National Park.

August 23 to 31 were spent in Sequoia National Park on forest insect surveys. General observations were made in the vicinity of Generals Highway, Giant Forest, Lodgepole, Old Colony Mill and Marble Fork. The Atwell Mill sample plot was re-established and surveyed, and a general observation was made in this region; a 160-acre sample plot was established and surveyed in the lodgepole pine type at Hockett Meadows.

The results of these observations and surveys are as follows:

1. Generals Highway. Appears good in pine type with most of losses (endemic) confined to fir.
2. Giant Forest. Appears good except in pine type along highway below Giant Forest. 1938 attacks showing up here and will bear further investigation.
3. Lodgepole. Losses in fir and Jeffrey pine are showing up prominently in the immediate vicinity.
4. Colony Mill. Losses in fir and pine general throughout this area, extending on up the Marble Fork to Lodgepole.
5. Atwell Mill. Losses on the sample plot (80 acres) for 1936-37-38 (too early yet to fully determine 1938 losses) are as follows:

Year	Sugar Pine	Ponderosa Pine	White Fir	Incense Cedar	Total
1936	1	3			4
1937		3	2	10	15
1938	2		1	2	5
Total	3	6	3	12	24

The recent losses indicated by this plot appear to sustain similar losses in the adjoining forest stands in this area.

6. Hockett Meadows. Losses on the sample plot (160 acres) for 1936-37-38 (1938 losses not complete as all attacks have not yet occurred) established here are as follows:

<u>Year</u>	<u>Lodgepole Pine</u>	<u>Shasta Fir</u>	<u>Total</u>
1936	11		11
1937	15	2	17
1938	11	2	13
Total	37	5	41

Lodgepole pine losses as indicated by this plot are sustained in the surrounding type at Hockett Meadows and Horse Creek Camp Grounds. Losses in the red fir and Shasta fir are relatively much higher.

Needleminer in the lodgepole pine at Mineral King, adjacent to the Park, is very active, heavy defoliation having occurred in recent years. A few miner needles were found in the lodgepole at Hockett Meadows area, but no active larvae were found although a close observation was made. Needleminer is also very active in the white fir and to a limited extent in sugar pine in the vicinity of Atwell Mill.

It is believed that the infestation in the pine type extending from Moro Rock around the Giant Forest to Colony Mill and on up the Marble Fork will average 25 trees per square mile and that fall control work is advisable in this area.

Respectfully submitted,

S. T. Carlson
Agent.

Atwell Mill, Sequoia National Park
August 31, 1938.

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Washington

19~~38~~ Annual Forest Insect Report

Sequoia National Park
(Name of national park or monument)

Name of plant species attacked	Name of attacking insect	Infestation				Opening and closing dates for control	Control			Estimated total cost next year		
		Location	Extent	Damage	Status		Treatment					
							Last year	This year	Next year			
1	2	3	4	5	6	7	8	9	10	11		
<i>Pinus lambertiana</i>	<i>D. monticolae</i>	Giant Forest to Colony Mill and vicinity	Scattered attack over wide area	Slight	Old endemic, static		Occasional tree cut in areas of tourist use	Same #5	Same #8,9	Done in connection with snag removal		
<i>Pinus ponderosa</i>	<i>D. brevicornis</i>											
<i>Abies concolor</i>	<i>Scolytus subscaber</i>											
<i>Pinus lambertiana</i>	<i>D. monticolae</i>	Heather L. to Twin L.	Scattered attack over wide area	Slight	Old endemic, static		None	None	None			
<i>Pinus jeffreyi</i>	<i>D. jeffreyi</i>	to Lost Grove to Lodgepole Camp										
<i>Pinus murrayana</i>	<i>D. monticolae</i>											
<i>Pinus monticola</i>	" "											
<i>Abies concolor</i>	<i>S. subscaber</i>											
<i>Pinus lambertiana</i>	<i>D. monticolae</i>	Middle Fk. of Kaweah up to Cliff Crk.	Scattered wide area l. group 5 nr. Buck Canyon	Slight	Old endemic, indications of bldg. up nr. Buck Cany.		None	None	None			
<i>Pinus ponderosa</i>	<i>D. brevicornis</i>											
<i>Abies concolor</i>	<i>S. subscaber</i>											

Date or period of survey: Late summer and autumn of 1938

Submitted by:

Frank Bell

Unit of survey: Park at large

(Park at large, ranger district, biological control unit)

Method of survey: General observations and topographic observations.

(General observations, systematic examination by campgrounds, strips, plots, watersheds, tree census, or otherwise)

Title: Acting Park Forester

Date: November 5, 1938

Instructions for preparing report

The report is due not later than November 1 of each year for the preceding 12-month period. If surveys in different control units or ranger districts within a park or monument are made by different individuals, each individual shall make out one of these forms together with an accompanying narrative report.

Distribution of copies:

- Original: Regional Director, Attention Regional Forester.
- One copy: Director, Attention Chief Forester.
- One copy: Entomological field representative, Bureau of Entomology and Plant Quarantine.
- One copy: Park or monument files.

This report is to be supplemented with a detailed narrative report in accordance with the attached outline and also with a map showing the location of any new infestation or infestations of epidemic proportions.

All infestations within a park are to be reported on one sheet unless additional space is needed except the following:

1. Infestations of epidemic proportions which should be reported on separate sheets.
2. Surveys made by different individuals which should be reported by each individual on separate sheets.
3. Surveys made by ranger districts or biological control units which should be reported on separate sheets for each ranger district or biological control unit concerned.

Explanation of column headings

1 State scientific and/or common name or names of tree, shrub, or other plant species attacked by the insect.

2 State scientific and/or common name of the insect if known. If unknown, so state, and indicate its general type, whether bark beetle, borer, defoliator, leaf miner, gall aphid, budworm, twig pruner, etc.

3 Indicate whether infestation is general throughout the park or restricted to certain stated areas. Reference the site of the infestation to geographical or cultural features that are commonly known and named on the official map of the park. Examples are: Summit of Beech Knob; Battery 5; Tuolumne Meadows; Shirttail Canyon; Whitman Creek; Campground No. 12; etc.

4 If infestation is limited or confined to a few scattered trees state number of trees attacked. If restricted to roadsides state miles of same affected. If widespread state acreage and average number of trees per acre attacked.

5 Indicate severity of damage caused by the infestation. State whether trees are killed, dying, weakened, defoliated, or otherwise injured by the insect as a primary cause.

6 State whether infestation is a new or old one. If old indicate whether it has increased, decreased, or remained the same since last year.

7 State approximate opening and closing dates of applied control.

8 State what treatment was applied last year, if any, and to what extent it was responsible for any change indicated in column 9.*

9 State what treatment was applied this year, if any, and to what extent it appears to have been effective.*

10 State what treatment is recommended for next year, if any.*

11 Indicate approximate cost in man-days and materials separately of treatment recommended under 10.

* Give exact formula of any sprays or chemicals used or recommended, or indicate S. F. No. as listed in Tree Preservation Bulletin No. 6. State also date or dates of application.

UNITED STATES
DEPARTMENT OF THE INTERIOR
National Park Service
Washington

1938 Annual Forest Insect Report

Sequoia National Park

(Name of national park or monument)

Name of plant species attacked	Name of attacking insect	Infestation				Opening and closing dates for control	Control			Estimated total cost next year
		Location	Extent	Damage	Status		Treatment	Last year	This year	
1	2	3	4	5	6	7	8	9	10	11
<i>Pinus murrayana</i>	<i>Recurvaria milleri</i>	Kern-Kaweah	About 1000 trees on 1 mi. defoliation	Concentrated	Probably same as last yr.		None	None	None	
<i>Pinus lambertiana</i>	<i>D. monticola</i>	River Valley	Scattered ovr. wide area	Slight	Old endemic, indicatn. of bldg. up in sugar pine on S. side Cliff Cr.		None	None	None	
<i>Pinus ponderosa</i>	<i>D. brevicornis</i>	Cliff Crk & vicinities								
<i>Pinus jeffreyi</i>	<i>D. jeffreyi</i>	vicinities								
<i>Abies concolor</i>	<i>D. subscaber</i>		l gr. 4 sugar pine							
<i>Pinus lambertiana</i>	<i>D. monticola</i>	Attwells Mill	Scattered ovr. wide area	Slight	Endemic		None	None	None	
<i>Pinus ponderosa</i>	<i>S. brevicornis</i>	vicinity								
<i>Abies concolor</i>	<i>S. subscaber</i>									
<i>Pinus murrayana</i>	<i>D. monticola</i>	Hockett Mdw	Scattered ovr. wide area	Slight	Endemic		None	None	None	
<i>Pinus monticola</i>	"	a vicinity								
<i>Pinus murrayana</i>	<i>D. monticola</i>	Big Arroyo Chagoon Plt.	Very settd. wide area	Slight	Less than endemic		None	None	None	
<i>Pinus lambertiana</i>	<i>D. monticola</i>	Kern Canyon	Settd over wide area	Slight	Less than endemic		None	None	None	
<i>Pinus murrayana</i>	"									
<i>Pinus jeffreyi</i>	<i>D. jeffreyi</i>	K. of Kern Can.	Settd over wide area	Slight	Less than endemic		None	None	None	
<i>Pinus murrayana</i>	<i>D. monticola</i>									

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